

Classified
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P579734

Luminaire Tested: **HCC4S10D010MB-HM40525835-41RWWH**

Issue Date: 9/9/2021

Test Information

Test Method: LM-41-14
Report Number: P579734
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-15)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/9/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HCC4S10D010MB-HM40525835-41RWWH
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
CYLINDER
Ballast/Driver: ELECTRONIC DRIVER

Summary

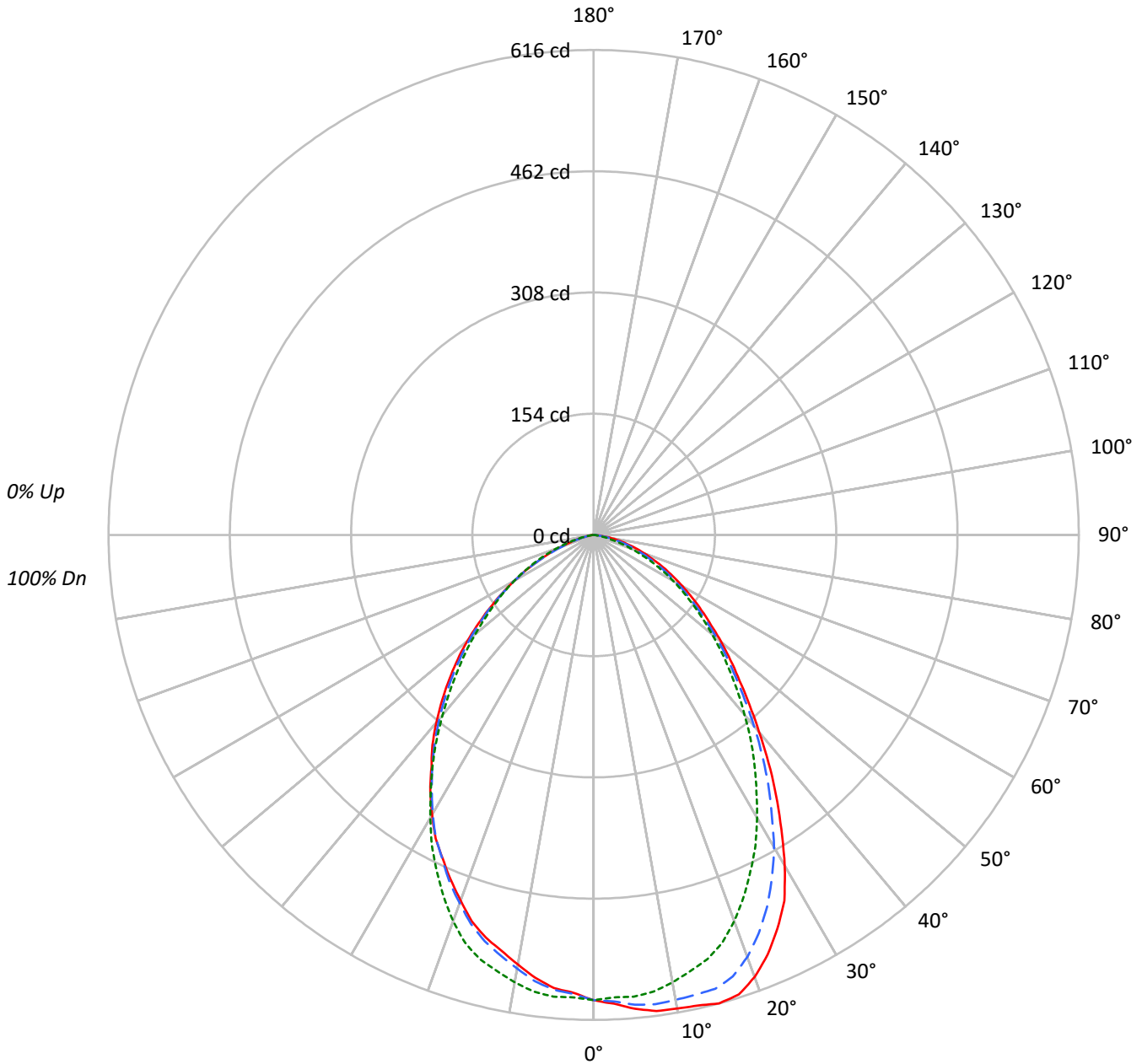
Lumens per Lamp: N/A
Luminaire Lumens: 1126.3 lumens
Efficiency: N/A
Efficacy: 113.8 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.08 / 1.16
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 9.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|--|--|--|--|---|
| RF | 20 | | | | | 20 | | | | | 20 | | | | | 20 | | | | | 20 | | | | | |
| RC | 80 | | | | | 70 | | | | | 50 | | | | | 30 | | | | | 10 | | | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | | | | |
| 1 | 111 | 107 | 104 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | | | | | |
| 2 | 103 | 96 | 90 | 85 | 100 | 94 | 89 | 84 | 90 | 86 | 82 | 87 | 84 | 80 | 84 | 81 | 79 | 77 | | | | | | | | |
| 3 | 95 | 86 | 79 | 73 | 92 | 84 | 78 | 73 | 81 | 76 | 71 | 79 | 74 | 70 | 76 | 72 | 69 | 67 | | | | | | | | |
| 4 | 88 | 77 | 70 | 64 | 86 | 76 | 69 | 63 | 74 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 | | | | | | | | |
| 5 | 81 | 70 | 62 | 56 | 79 | 69 | 61 | 56 | 67 | 60 | 55 | 65 | 59 | 55 | 63 | 58 | 54 | 52 | | | | | | | | |
| 6 | 76 | 64 | 56 | 50 | 74 | 63 | 55 | 50 | 61 | 54 | 49 | 60 | 54 | 49 | 58 | 53 | 49 | 47 | | | | | | | | |
| 7 | 71 | 58 | 51 | 45 | 69 | 58 | 50 | 45 | 56 | 49 | 45 | 55 | 49 | 44 | 54 | 48 | 44 | 42 | | | | | | | | |
| 8 | 66 | 54 | 46 | 41 | 65 | 53 | 46 | 41 | 52 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 38 | | | | | | | | |
| 9 | 62 | 50 | 42 | 37 | 61 | 49 | 42 | 37 | 48 | 41 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | | | | |
| 10 | 58 | 46 | 39 | 34 | 57 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 43 | 38 | 34 | 32 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|-------|-------|-------|
| 0° | 72897 | 72897 | 72897 |
| 5° | 74810 | 72891 | 71541 |
| 10° | 76502 | 72268 | 69413 |
| 15° | 78648 | 71229 | 67590 |
| 20° | 78442 | 68505 | 64843 |
| 25° | 75125 | 64129 | 61734 |
| 30° | 69106 | 59079 | 58452 |
| 35° | 60803 | 53621 | 54042 |
| 40° | 52604 | 47983 | 50012 |
| 45° | 45720 | 42632 | 45197 |
| 50° | 40566 | 37611 | 40144 |
| 55° | 35999 | 32988 | 34407 |
| 60° | 32070 | 28616 | 28616 |
| 65° | 28486 | 23787 | 22298 |
| 70° | 24632 | 18032 | 15868 |
| 75° | 20683 | 11867 | 9817 |
| 80° | 15698 | 5754 | 5256 |
| 85° | 8350 | 2123 | 2123 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 56.0 | 5.0 |
| 10°-20° | 158.7 | 14.1 |
| 20°-30° | 223.7 | 19.9 |
| 30°-40° | 231.1 | 20.5 |
| 40°-50° | 195.9 | 17.4 |
| 50°-60° | 142.6 | 12.7 |
| 60°-70° | 83.3 | 7.4 |
| 70°-80° | 31.0 | 2.7 |
| 80°-90° | 4.0 | 0.4 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 438.4 | 38.9 |
| 0°-40° | 669.5 | 59.4 |
| 0°-60° | 1008.0 | 89.5 |
| 0°-90° | 1126.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1126.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0° | 591 | 591 | 591 | 591 | 591 | |
| 5° | 604 | 599 | 589 | 580 | 578 | 58 |
| 15° | 616 | 597 | 558 | 534 | 529 | 173 |
| 25° | 552 | 521 | 471 | 454 | 454 | 252 |
| 35° | 404 | 386 | 356 | 357 | 359 | 252 |
| 45° | 262 | 255 | 244 | 253 | 259 | 204 |
| 55° | 167 | 159 | 153 | 158 | 160 | 151 |
| 65° | 98 | 90 | 82 | 76 | 76 | 97 |
| 75° | 43 | 36 | 25 | 20 | 21 | 47 |
| 85° | 6 | 4 | 2 | 2 | 2 | 8 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0° | 591.0 | 591.0 | 591.0 | 591.0 | 591.0 | 591.0 | 591.0 | 591.0 | 591.0 |
| 2.5° | 596.1 | 594.6 | 593.1 | 591.0 | 588.0 | 585.8 | 583.6 | 582.1 | 582.1 |
| 5° | 604.2 | 601.9 | 599.0 | 593.9 | 588.7 | 584.4 | 579.9 | 577.8 | 577.8 |
| 7.5° | 610.0 | 607.1 | 601.2 | 593.9 | 585.0 | 578.4 | 571.8 | 568.9 | 567.4 |
| 10° | 610.8 | 607.8 | 599.7 | 588.7 | 577.0 | 566.7 | 559.3 | 555.0 | 554.2 |
| 12.5° | 612.2 | 608.6 | 598.2 | 582.9 | 567.4 | 555.0 | 546.9 | 542.5 | 541.0 |
| 15° | 615.9 | 610.8 | 596.8 | 577.0 | 557.8 | 543.2 | 534.4 | 530.8 | 529.3 |
| 17.5° | 612.2 | 604.8 | 588.0 | 564.4 | 543.2 | 527.1 | 518.2 | 514.6 | 514.6 |
| 20° | 597.6 | 590.2 | 570.4 | 544.6 | 521.9 | 506.5 | 497.6 | 495.5 | 494.0 |
| 22.5° | 577.0 | 568.9 | 547.6 | 520.4 | 497.6 | 483.8 | 477.8 | 475.0 | 474.2 |
| 25° | 552.0 | 544.0 | 521.2 | 493.3 | 471.2 | 459.5 | 454.4 | 454.4 | 453.6 |
| 27.5° | 524.2 | 513.8 | 490.4 | 466.1 | 444.8 | 436.1 | 433.8 | 433.8 | 434.6 |
| 30° | 485.2 | 477.8 | 458.0 | 434.6 | 414.8 | 408.9 | 408.9 | 410.4 | 410.4 |
| 32.5° | 443.4 | 438.2 | 420.6 | 400.1 | 384.6 | 381.0 | 382.5 | 385.4 | 386.1 |
| 35° | 403.8 | 397.8 | 386.1 | 367.8 | 356.1 | 354.6 | 356.8 | 358.9 | 358.9 |
| 37.5° | 364.8 | 358.9 | 350.8 | 336.2 | 327.4 | 328.1 | 331.0 | 334.0 | 336.2 |
| 40° | 326.7 | 322.3 | 316.4 | 304.6 | 298.0 | 301.0 | 304.6 | 307.6 | 310.6 |
| 42.5° | 292.9 | 288.5 | 284.0 | 275.3 | 270.8 | 274.6 | 278.9 | 281.9 | 284.8 |
| 45° | 262.1 | 259.1 | 254.7 | 247.4 | 244.4 | 248.1 | 253.2 | 256.2 | 259.1 |
| 47.5° | 235.7 | 234.2 | 228.3 | 221.7 | 220.2 | 223.8 | 228.3 | 231.9 | 234.2 |
| 50° | 211.4 | 209.2 | 204.0 | 197.4 | 196.0 | 201.9 | 204.8 | 207.0 | 209.2 |
| 52.5° | 187.9 | 185.7 | 179.8 | 174.0 | 174.0 | 178.3 | 180.6 | 181.3 | 183.6 |
| 55° | 167.4 | 165.1 | 159.3 | 154.9 | 153.4 | 157.0 | 158.5 | 158.5 | 160.0 |
| 57.5° | 148.3 | 146.1 | 140.2 | 135.1 | 134.3 | 136.6 | 136.6 | 136.6 | 137.2 |
| 60° | 130.0 | 127.7 | 121.9 | 117.4 | 116.0 | 116.8 | 116.0 | 115.3 | 116.0 |
| 62.5° | 113.0 | 110.8 | 104.9 | 99.8 | 98.3 | 98.3 | 96.2 | 95.5 | 96.2 |
| 65° | 97.6 | 94.0 | 89.6 | 84.4 | 81.5 | 79.3 | 76.4 | 76.4 | 76.4 |
| 67.5° | 82.2 | 79.3 | 74.2 | 69.0 | 65.3 | 61.7 | 57.2 | 58.7 | 59.4 |
| 70° | 68.3 | 66.1 | 60.2 | 55.1 | 50.0 | 45.5 | 41.9 | 43.4 | 44.0 |
| 72.5° | 55.8 | 52.8 | 47.7 | 41.9 | 37.4 | 31.5 | 29.4 | 30.8 | 30.8 |
| 75° | 43.4 | 40.4 | 36.0 | 30.0 | 24.9 | 19.8 | 19.8 | 20.6 | 20.6 |
| 77.5° | 32.3 | 29.4 | 24.9 | 19.8 | 15.4 | 11.7 | 12.5 | 12.5 | 12.5 |
| 80° | 22.1 | 19.8 | 16.2 | 11.7 | 8.1 | 6.6 | 6.6 | 6.6 | 7.4 |
| 82.5° | 12.5 | 11.0 | 8.8 | 5.9 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 |
| 85° | 5.9 | 4.4 | 3.6 | 2.2 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 87.5° | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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Scaled Data Report



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— 0°-180° - - 45°-225° - - - - 90°-270°

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